

Appl. No. : 10/066,414
Filed : February 1, 2002

IN THE CLAIMS:

Please cancel Claim 19 without prejudice or disclaimer.

Please amend Claim 13 as follows:

1. An outboard motor comprised of a power head containing an internal combustion engine surrounded by a protective cowling, a driveshaft housing and lower unit depending from said power head and containing a propulsion device for propelling an associated watercraft, a transmission contained in said driveshaft housing and lower unit for driving said propulsion device from said engine, said engine having a cylinder block having a first cylinder head connected thereto and cooperating therewith to define a first cylinder bank containing at least one cylinder and a second cylinder head connected thereto and cooperating therewith to define a second cylinder bank containing at least one cylinder, said first and second banks arranged generally in a vertically extending "V" shape and defining a vertically extending valley therebetween, an exhaust system for discharging exhaust gasses from said engine to the atmosphere at least in part through said driveshaft housing and lower unit said exhaust system including at least one exhaust passage extending from each cylinder through its respective cylinder head towards said valley and a vertically extending exhaust manifold in said valley for collecting exhaust gasses from said exhaust passages said exhaust manifold terminating in a single downwardly extending discharge passage extending into said driveshaft housing and lower unit, an exhaust cooling jacket surrounding said single discharge passage and said exhaust manifold, an engine body cooling jacket formed in said cylinder heads and said cylinder block, and means for delivering cooling water from the body of water in which the associated watercraft is operating first to said exhaust cooling jacket and from said exhaust cooling jacket to said engine body cooling jacket.

2. The exhaust system in accordance with claim 1, wherein there is a separate exhaust manifold associated with each cylinder bank, each of said exhaust manifolds having a collector section terminating at a common outlet formed at the lower end of said engine.

3. The exhaust system in accordance with claim 1, wherein there is a separate exhaust manifold associated with each cylinder bank, each of said exhaust manifolds having a collector section terminating at a common outlet formed near a vertical midpoint of said engine.

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4. The exhaust system in accordance with claim 1, wherein said engine is supported upon an exhaust guide, said exhaust guide having an exhaust passage therethrough leading from said discharge passage.

5. The exhaust system in accordance with claim 4, wherein said single passage is connected to said exhaust guide via at flexible hose.

6. The exhaust system in accordance with claim 1, wherein there is a separate exhaust manifold associated with each cylinder bank, each of said exhaust manifolds having a collector section terminating at a common outlet, said engine is supported upon a top of an exhaust guide, said exhaust guide having a pair of passages therethrough, each exhaust common outlet leading to a respective one of said pair of passages through said exhaust guide.

7. The exhaust system in accordance with claim 6, wherein an exhaust pipe extends from a bottom of said exhaust guide, said exhaust pipe having a first branch connected to one of said pair having a first branch connected to one of said pair of passages through said exhaust guide and a second guide connected to said other of said pair of passages, said branches merging into a single passage.

8. An exhaust system for an engine having a cylinder block having a first cylinder head connected thereto and cooperating therewith to define a first cylinder bank containing at least one cylinder and a second cylinder head connected thereto and cooperating therewith to define a second cylinder bank containing at least one cylinder, said first and second banks arranged generally in a "V" shape and having a valley therebetween a main exhaust passage positioned within an exhaust manifold connected to said engine and extending through said valley to an end of said engine, at least one passage extending from each cylinder through its respective cylinder head inwardly to said exhaust manifold and a starter motor is position in a space between said exhaust manifold and said engine.

9. The exhaust system in accordance with claim 8, wherein a passage is defined through said manifold from each exhaust passage leading from a combustion chamber to said main exhaust passage.

10. The exhaust system in accordance with claim 8, wherein each cylinder head has an exhaust manifold mounting surface to which said manifold is mounted, said surfaces extending in generally parallel planes.

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11. The exhaust system for an engine having a cylinder block having a first cylinder head connected thereto and cooperating therewith to define a first cylinder bank containing at least one cylinder and a second cylinder head connected thereto and cooperating therewith to define a second cylinder bank containing at least one cylinder, said first and second banks arranged generally in a "V" shape and having a valley therebetween a main exhaust passage defined within said valley by said cylinder heads and cylinder block and extending through said valley to an end of said engine and at least one passage extending from each cylinder through its respective cylinder head inwardly to said main exhaust passage, said engine including a lubricant passage and a coolant passage extending through said valley, said coolant passage being positioned between said lubricant passage and said main exhaust passage.

12. The exhaust system for an engine having a cylinder block having a first cylinder head connected thereto and cooperating therewith to define a first cylinder bank containing at least one cylinder and a second cylinder head connected thereto and cooperating therewith to define a second cylinder bank containing at least one cylinder said first and second banks arranged generally in a "V" shape and having a valley therebetween a main exhaust passage defined within said valley by said cylinder heads and cylinder block and extending through said valley to an end of said engine and at least one passage extending from each cylinder through its respective cylinder head inwardly to said main exhaust passage, a coolant jacket extending about said exhaust passage, a coolant passage positioned within said cylinder block adjacent each combustion chamber, and at least one oil passage extending through said valley generally parallel to said main exhaust passage, each coolant jacket and coolant passage extending between said at least one oil passage and said exhaust passage.

13. (Amended) An outboard motor comprising an engine, said engine having a cylinder block and at least one cylinder head, at least two cylinders defined within said cylinder block and said cylinder block being mounted generally above an exhaust guide, a cylinder head exhaust passage communicating with both of said cylinders through said cylinder head, said exhaust guide including an exhaust guide passage, said cylinder block including a cylinder block exhaust passage, and said exhaust guide passage and said cylinder head exhaust passage being in communication with each other through said cylinder block exhaust passage.

14. The outboard motor of claim 13, wherein said engine has a v-type configuration.

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15. The outboard motor of claim 13 further comprising a manifold interposed between said cylinder block exhaust passage and said cylinder head passage.

16. An outboard motor comprising an internal combustion engine, an exhaust guide plate being positioned generally below said internal combustion engine and including an exhaust guide passage, said internal combustion engine comprising a generally vertically extending crankshaft and a cylinder block having a pair of cylinder banks inclined relative to one another, each of said pair of cylinder banks including at least one cylinder, a cylinder head assembly enclosing said cylinder, said cylinder head assembly comprising at least one exhaust port and at least one corresponding exhaust runner, said exhaust runner being in selective communication with said exhaust port and being formed between said exhaust port and an exhaust manifold such that said engine includes two exhaust manifolds that extend in generally vertical directions, a pair of connecting exhaust conduits communicating with said exhaust manifolds and extending toward said cylinder block, said cylinder block also having a pair of passages formed therein that are in registry with said connecting exhaust conduits, said passages merging within said cylinder block into an exhaust discharge, and said exhaust discharge being coupled to said exhaust guide passage.

17. An outboard motor comprising a first cylinder bank and a second cylinder bank, said first cylinder bank and said second cylinder bank being inclined relative to one another and jointly forming at least a portion of a cylinder block, a crankcase cover connected to a portion of said cylinder block and defining a crankcase chamber, a generally vertically extending crankshaft extending through said crankcase chamber between said crankcase cover and said cylinder block, a first cylinder head assembly being attached to said first cylinder bank and a second cylinder head assembly being attached to said second cylinder bank, a first exhaust manifold being connected to said first cylinder head assembly, a second exhaust manifold being connected to said second cylinder head assembly, an exhaust passage being formed in said cylinder block and comprising a first branch, a second branch and a convergent portion that combines said first branch and said second branch, and said first and second exhaust manifolds separately communicating with said first and second branches respectively.

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18. The outboard motor of claim 17, wherein said first and second exhaust manifolds communicate with said first and second branches through a first connection passage and a second connection passage respectively.

19. (Cancelled)

20. The outboard motor of claim 17, wherein said first and second exhaust manifolds are positioned between said first and second cylinder head assemblies.

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COMMENTS

Claims 1-18 and 20 remain pending in the present application, Claim 19 having been cancelled without prejudice or disclaimer, and Claim 13 having been amended.

In response to the Office Action mailed November 20, 2002, Applicants respectfully request the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments.

Amendments To Specification Address Noted Informalities

Applicants have amended the specification to include a claim of priority to the now abandoned parent of the present application. This amendment therefore does not add any new matter and overcome the Examiner's objection. Entry of the amendments is respectfully requested.

Additionally, Applicants have included all of the presently pending claims above, properly underlined as requested by the Examiner, in compliance with 37 C.F.R. §1.173. Additionally, the corrections made by way of the Certificate of Correction dated August 21, 2001 (copy filed herewith) have been included in the above claims, without underlining.

All Pending Claims Fully Comply With 35 U.S.C. §§ 112 and 251

Claims 13-20 stand rejected under 35 U.S.C. § 112 1st paragraph as not being enabled, and under § 251 as being based on new matter. Applicants respectfully traverse this rejection.

It is well established that "[t]he claims in [a] reissue application must be for subject matter which the applicant had the right to claim in the original patent." MPEP § 1411.02. Further, it is well established that an applicant has the right to claim any subject matter properly disclosed in a patent application.

In the present application, at least Figures 1-3, 5, and 6 clearly show that a portion of the exhaust passage 92 extends through the cylinder block 52. Thus, Claim 13 is fully supported by the present specification. Additionally, Applicants have amended the specification to include a reference to the portion of the passage 92 that extends through the cylinder block.

With respect to the rejection of Claim 16, Applicants wish to point out that the original specification of the present application disclosed that "an exhaust passage 90 leads from each combustion chamber to a passage 92. The remainder of the exhaust system is described in more detail below." The passage 90 is illustrated in Figs. 1-3, 5 and 6. Thus Applicants submit that

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Claim 16 is fully supported by the original specification. Additionally, Applicants have amended the specification to include a reference to the passage 90 as a “runner.”

With respect to Claims 17 and 18, Applicants submit that at least Figures 6 and 9 clearly show an exhaust passage in the cylinder block 52 that includes “branches” or “exhaust connecting passages” extending therethrough and forming a “converging portion”. Thus, Applicants submit that Claims 17 and 18 are fully supported by the original specification. Additionally, Applicants have amended the specification to include references to the terms “branches” and “exhaust connecting passages”.

Ziegler Does Not Anticipate Claims 13 and 15

Claims 13 and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by Ziegler. Applicants respectfully traverse the present rejection.

Ziegler only discloses two-stroke engines. Thus, none of the exhaust passages in Ziegler extend through the cylinder head. In contrast, Claim 13, among other limitations, recites “a cylinder head exhaust passage communicating with both of said cylinders through said cylinder head.” Thus, Ziegler cannot anticipate Claims 13 or 15.

Nakai et al. Does Not Anticipate Claims 13 and 14

Claims 13 and 14 stand rejected under 35 U.S.C. § 102(b) as anticipated by Nakai et al. Applicants respectfully traverse the present rejection.

Nakai et al. discloses exhaust system designs in which exhaust passages from each cylinder are connected directly with an exhaust manifold formed in the cylinder block. In contrast, Claim 13 recites, among other features, “at least two cylinders defined within said cylinder block and said cylinder block being mounted generally above an exhaust guide, a cylinder head exhaust passage communicating with both of said cylinders through said cylinder head.” Thus, Nakai et al. cannot anticipate Claims 13 or 14.

Isogawa Does Not Anticipate Claims 16-18 or 20

Claims 16-18 and 20 stand rejected under 35 U.S.C. § 102(b) as anticipated by Isogawa. Applicants respectfully traverse the present rejection.

Isogawa only discloses specific exhaust system designs for two-stroke engines. None of the exhaust ports in Isogawa are disposed in the cylinder head. In contrast, Claim 16 recites, among

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other limitations, "said cylinder head assembly comprising at least one exhaust port." Thus, Isogawa does not anticipate Claim 16.

Response to Drawing Objection

Figures 3, 8, and 20 stands objected to for containing informalities. In response, Applicants request that Figures 3, 8, and 20 be amended as shown in the attached copies of those Figures with changes shown in red.

Response to Rejection Based on Defective Declaration Under 35 U.S.C. § 251

Applicants will file a supplemental response with a Supplemental Reissue Declaration in compliance with 35 U.S.C. § 251.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve such issue promptly.

Respectfully submitted,

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